

6509016

Figure 1

M K L P V R L L V L M F W I P A
ATG AAG TTG CCT GTT AGG CTG TTG GTG CTG ATG TTC TGG ATT CCT GCT
S S D
TCC AGC GAT (-1 to -19, leader)

D V L M T Q T P L S L P V S L G
GAT GTT TTG ATG ACC CAA ACT CCA CTC TCC CTG CCT GTC AGT CTT GGA
D Q A S I S C
GAT CAA GCC TCC ATC TCT TGC (1-23, Frame work 1)

R S S Q S I V H S N G N T Y L E
AGA TCT AGT CAG AGC ATT GTA CAT AGT AAT GGA AAC ACC TAT TTA GAA
(24-39, CDR 1)

W Y L Q K P G Q S P N L L I Y
TGG TAC CTA CAG AAA CCA GGC CAG TCT CCA AAC CTC CTG ATC TAC
(40-54, Frame work 2)

F V S N R F S
TTT GTT TCC AAC CGA TTT TCT (55-61, CDR 2)

G V P D R F S G S G S G T D F T
GGG GTC CCA GAC AGG TTC AGT GGC AGT GGA TCA GGG ACA GAT TTC ACA
L K I S R V E A E D L G V Y Y C
CTC AAG ATC AGC AGA GTG GAG GCT GAG GAT CTG GGA GTT TAT TAC TGC
(62-93, Frame work 3)

F Q G S H V P W T
TTT CAA GGT TCA CAT GTT CCG TGG ACG
(94-102, CDR 3)

F G G T K L E I K
TTC GGT GGA GGC ACC AAG CTG GAA ATC AAA
(103-112, Frame work 4)

R A D A A P T V S I F P P
CGG GCT GAT GCT GCA CCA ACT GTA TCC ATC TTC CCA CCA

S S K L G
TCC AGT AAG CTT GGG (Constant region)

Figure 2

M A V L G L L F C L V T F P S C
ATG GCT GTC TTG GGG CTG CTC TTC TGC CTG GTG ACA TTC CCA AGC TGT
V L S
GTC CTG TCC (-1 to -19, Leader)

Q V Q V K E S G P F L V P P S Q
CAG GTG CAG GTG AAG GAG TCA GGA CCT TTC CTG GTG CCC CCC TCA CAG
S L S I T C T V S G F S L T
AGC CTG TCC ATC ACA TGC ACT GTC TCA GGG TTC TCA TTA ACC
(1-30, Frame work 1)

T Y G V S
ACC TAT GGT GTA AGC (31-35, CDR 1)

W I R Q P P G K G L E W L G
TGG ATT CGC CAG CCT CCA GGA AAG GGT CTG GAG TGG CTG GGA
(36-49, Frame work 2)

A I W G D G T T N Y H S A L I S
GCA ATT TGG GGT GAC GGG ACC ACA AAT TAT CAT TCA GCT CTC ATA TCC
(50-65, CDR 2)

R L S I S K D N S K S Q V F L K
AGA CTG AGC ATC AGC AAG GAT AAC TCC AAG AGC CAA GTT TTC TTA AAA
L N S L Q T D D T A T Y Y C A K
CTG AAC AGT CTG CAA ACT GAT GAC ACG GCC ACG TAC TAC TGT GCC AAA
(66-97, Frame work 3)

L G N Y D A L D Y
CTG GGT AAC TAC GAT GCT CTG GAC TAC
(98-106, CDR 3)

W G Q G T S V T V S S
TGG GGT CAA GGA ACC TCA GTC ACC GTC TCC TCA
(107-117, Frame work 4)

A K T T P P P V Y P L V P G S L
GCC AAA ACG ACA CCC CCA CCC GTC TAT CCA TTG GTC CCT GGA AGC TTG GG
(Constant region)

Figure 3(A)

1A7: 1 DVLMTQTPLSLPVSLGDQASISCRSSQSIVHSNGNTYLEWYLQKPGQSPNLLIYFVSNRF 60

1	1	.....	K.....K.....	60
2	1	.....	K.....K.....	60
3	1	..V.....	K.....K.....	60
4	1	.....	K.....K.....	60
5	1	.....	K.....K.....	60
6	1	.....	K.....K.....	60
7	1	.....	K.....K.....	60
8	1	.....	X.K.....K.....	60
9	5	.....S..F.....	K.....K.....	64
10	1	.....	K.....K.....	60
11	1	.....	K.....K.....	60
12	20	.....	K.....K.....	79
13	1	.....	K.....K.....L	60
14	1	.....	K.....K.....	60
15	5	.....S..F.....	K.....K.....	64

1A7: 61 SGVPDRFSGSGSGTDFTLKRISRVEAEDLGVYYCFQGSHVPWTFGGGTLEIK 112

1	61	.....	112
2	61	.....	112
3	61	.....	112
4	61	.....	111
5	61	...X.....	112
6	61	.....Y.....	112
7	61	...C.....	111
8	61	.....	111
9	65	.....T.....	116
10	61	.....R.....Y.....	112
11	61	.....R.....	112
12	80	.....Y..S.....	131
13	61	.....Y.....	112
14	61	.....W.....Y.....	112
15	65	.....Q.....T.....	116

Figure 3(B)

1A7:	1	QVQVKESGPFLVPPSQSLISITCTVSGFSLTGYGVSWIRQPPGKGLEWLGAIWGDGTTNYH	60
1	1	.G..A.....S.....V.....V.....S.....	52
2	1	..LQ...G..A.....S..IT.V.....V.....N....	60
3	20	..L....G..A.....G..N.V.....T..N.S.D.N	79
4	1	..L..T..G..A.....S..H.V.....VV..S..S..N	60
5	1	..L....G..A.....S..H.V.....V..AG.S..N	60
6	1	..L....G..A.....S..H.V.....V..AG.S..N	60
7	1	..L....G..A.....P..S..D.V.....V..G.S..N	60
8	23	..LQ...G..A.....G..N.V.....M.....N.D.N	82
9	1	..L....G..A.....G..N.V.....M.....N.D.N	60
10	133	..LQ...G..A.....G..N.V.....M.....N.D.N	192
11	20	..L....G..A.....G..N.V.....M.....N.D.N	79
12	1	..L....G..A.....SR..S..H.V.....M..G..N..D..N	60
13	21	.HL....V..A.....N..H.V.....V..AG..N..N	80
14	23	..LQ...G..A.....G..N.V.....M.....N.D.N	82
15	1	..LQ...G..A.....G..N.V.....M.....N.D.N	60
1A7:	61	SALISRLSISKDNSKSQVFLKLNSLQTDDATYYCAKL-----GNYDALDYWGQQGTSVTVSS	117
1	53	.....P-----YDYExxxxxx.....TL..	109
2	61	.....x-----xxxxxx.K.....	120
3	80	.T.K...T.T.....M.....R...SVIYYYGRSDK.FT.....	144
4	61	..K.....M.....M...Rx-----xx.D.Y.M.....	119
5	61	..M.....M.....M...Rx-----xxxxxx.Y.M.....	120
6	61	..M.....M.....M...Rx-----xxxx.Y.M.....	118
7	61	..M.....M..X..M...xx-----xxx.X.Y.M.....	119
8	83	..K.....M..H..R...RE-----=RDYR.....T....	138
9	61	..K.....M..H..R...RE-----=RDYR.....TL....	116
10	193	..K.....M..H..R...RE-----=RDYR.....T....	248
11	80	..K.....M..H..R...RE-----=RDYR.....TL....	135
12	61	..K.....M.....M...RD-----GYYDx.M.....	117
13	81	..M.....M..I..I...x-----xxxxx.Y.M.....	139
14	83	..K.....M..H..R...RE-----=RDYR.....T....	138
15	61	..K.....M..H..R...RE-----=RDYR.....T....	116

Figure 3(C)

VL consensus:	1	DVLMTQTPLSLPVSLGDQASISCRSSQSIVHSNGNTYLEWYLQKKQSPKLLIYFVSNRF	60
1A7:	1	.....P.....N.....	60
 ***** *****			
VL consensus:	61	SGVPDRFSGSGSGTDFTLKISRVEAEDLGVYYCFQGSHVPWTFGGGTKLEIK	112
1A7:	61	.....	112
 ***** *****			
VH consensus:	1	QVQLKESGPGLVAPSQSLSITCTVSGFSLTSYGVHWRQPPGKGLEWLGLVIWGDGSTNYN	60
1A7:	1	...V.....F..P.....T...S.I.....A.....T...H	60
 ***** *****			
VH consensus:	61	SALKSRLSISKDNSKSQVFLKMNSLQTDDTARYYCARExxxxYYAMDYWGQQGTSVTVSS	119
1A7:	61	...I.....L.....T...KL--GN.D.L.....	117

Figure 4

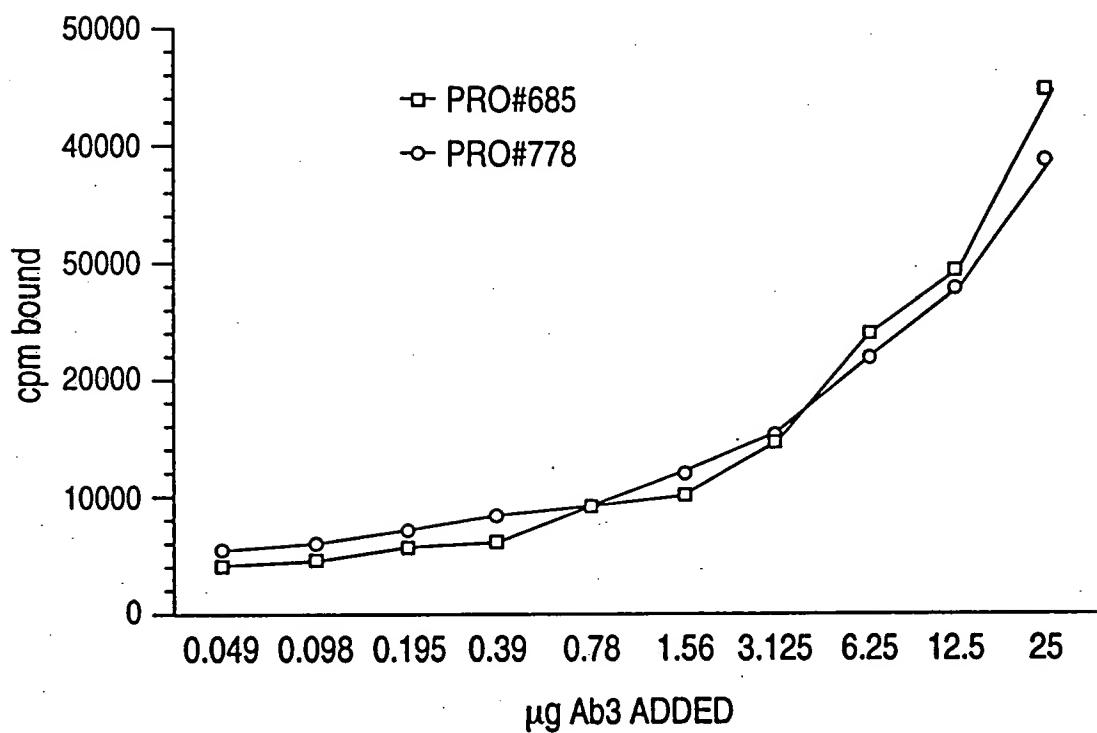


Figure 5

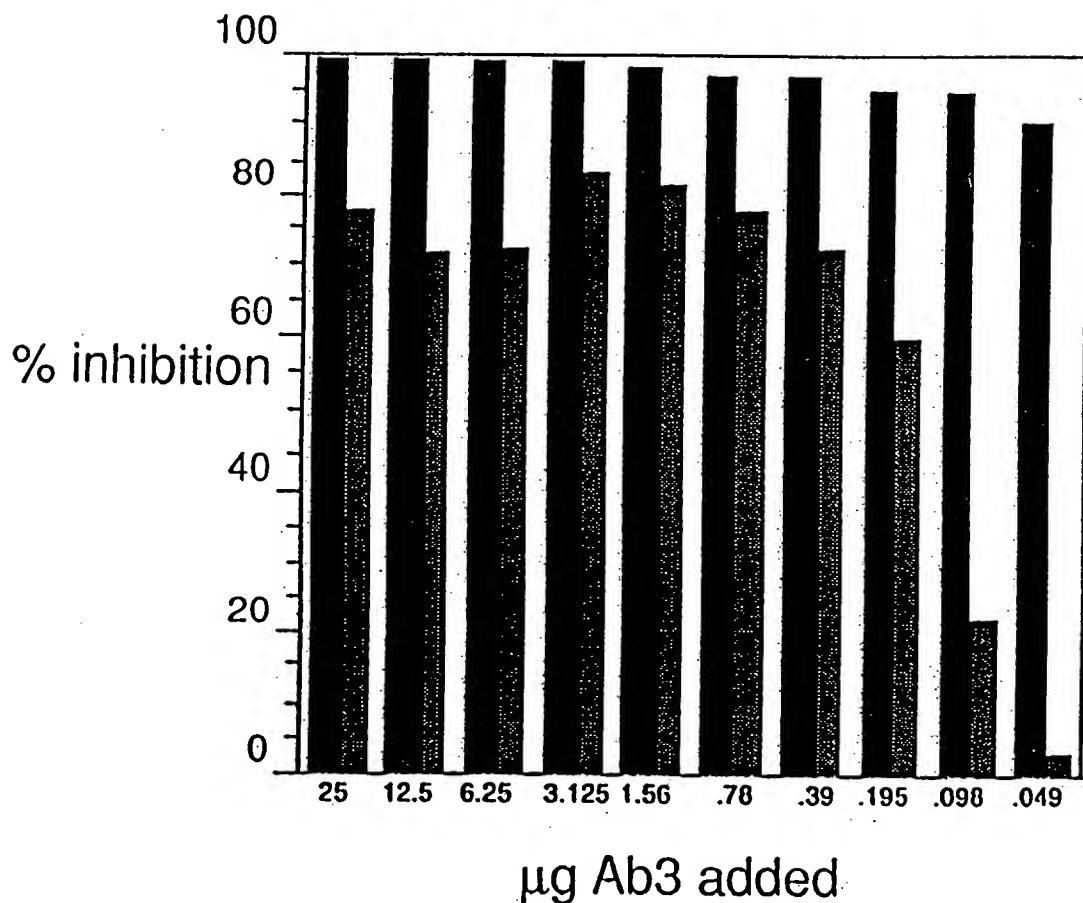


Figure 6

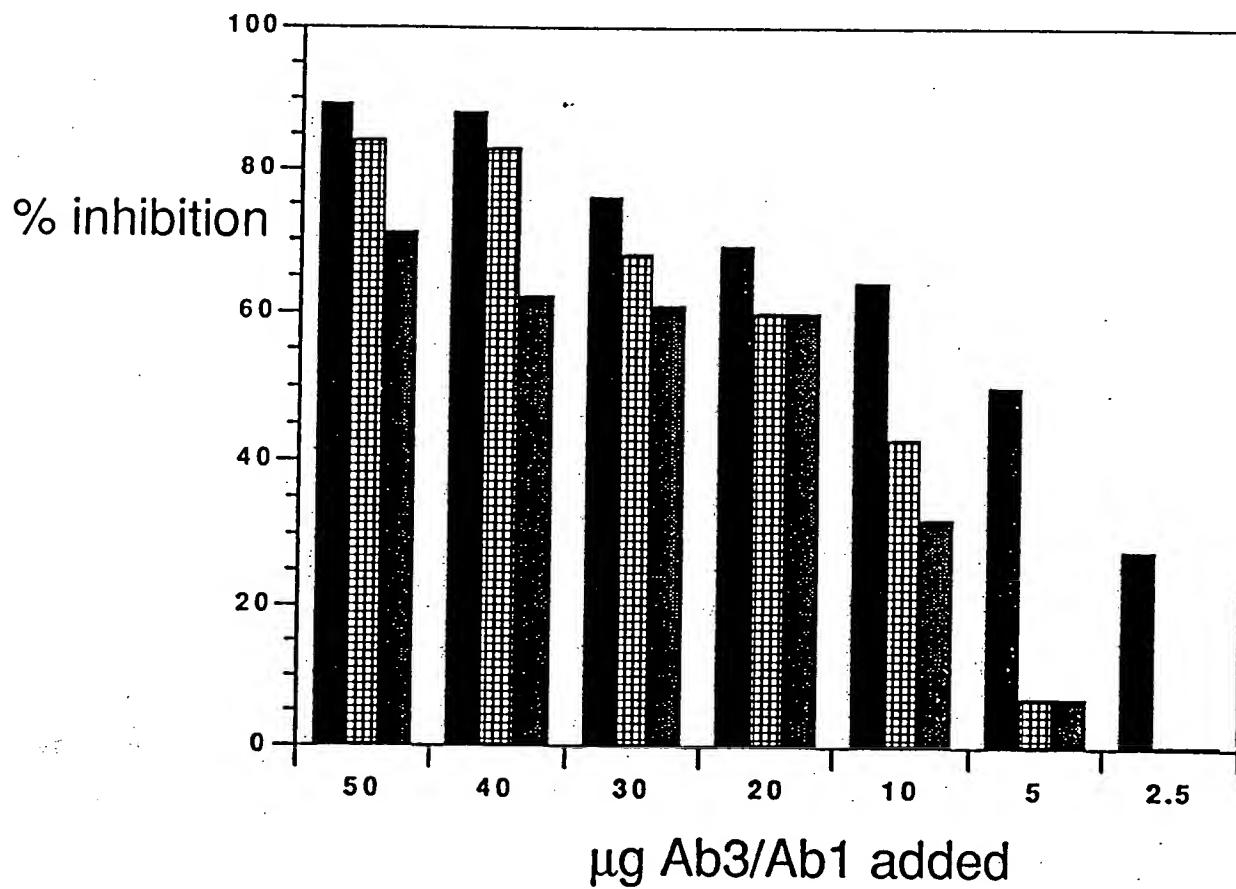


Figure 7(A)

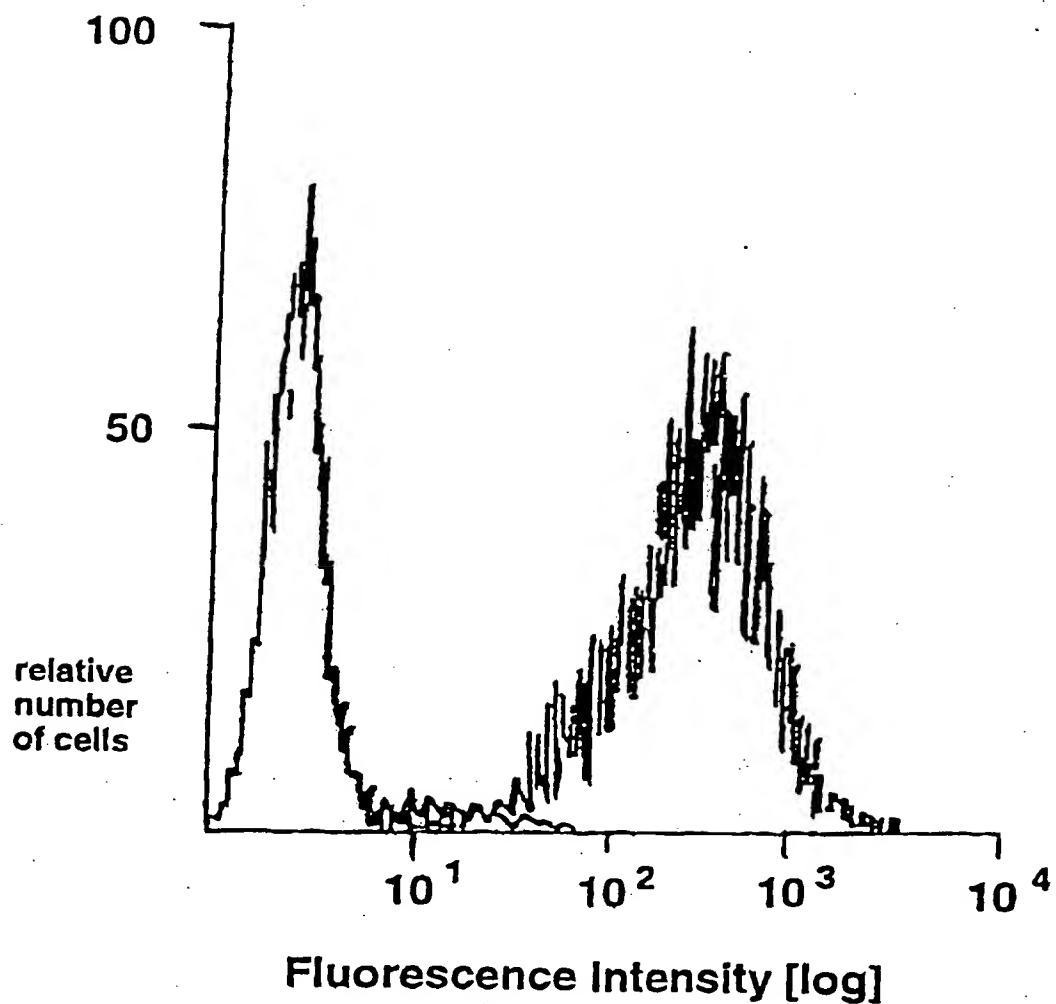


Figure 7(B)

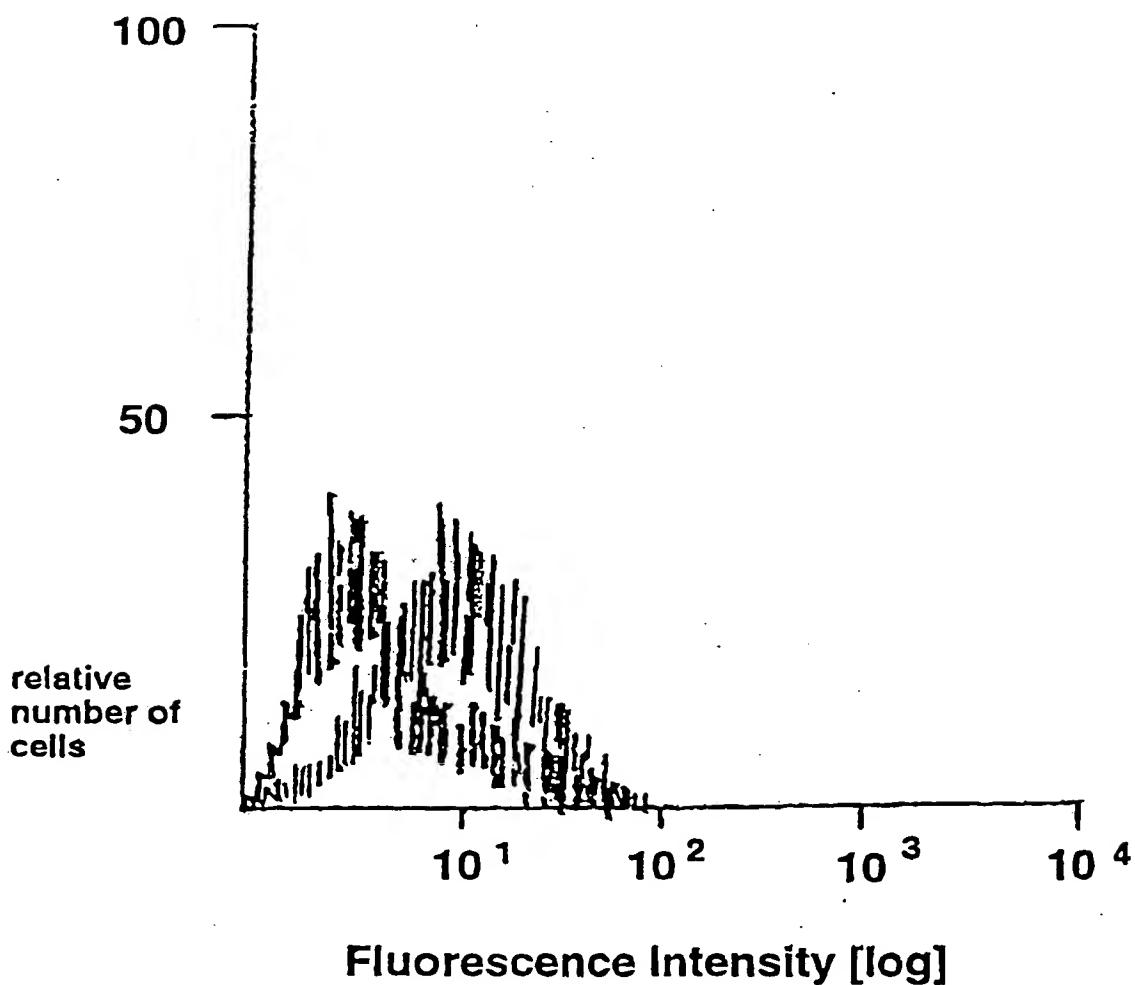


Figure 7(C)

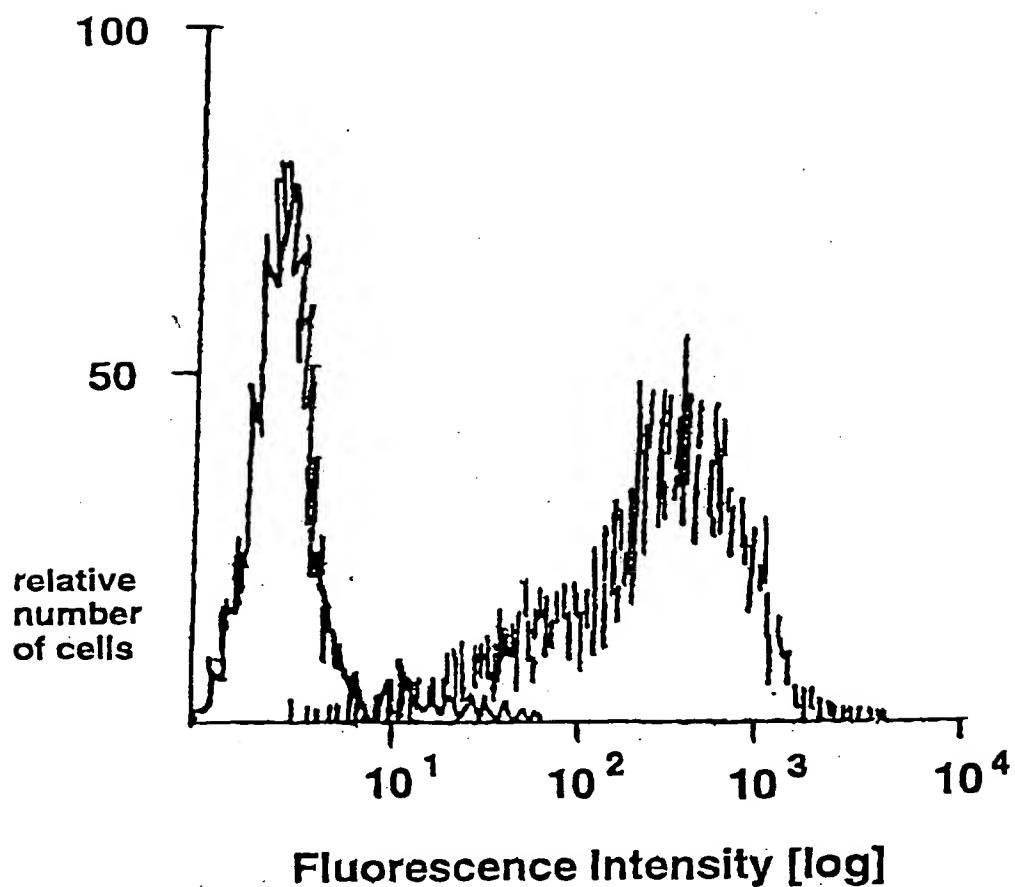


Figure 8

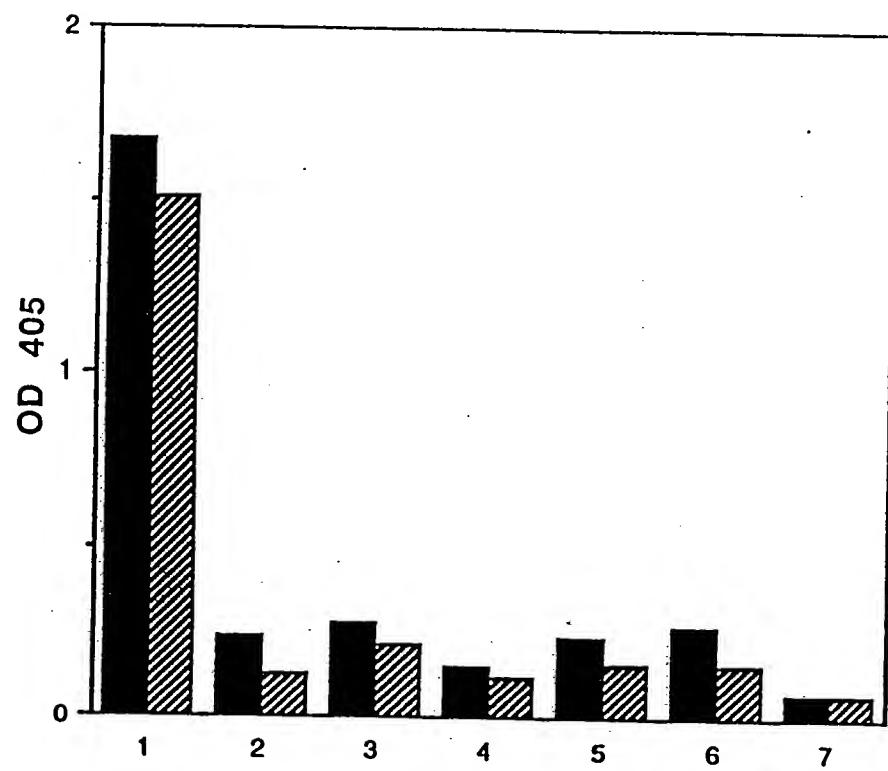


Figure 9

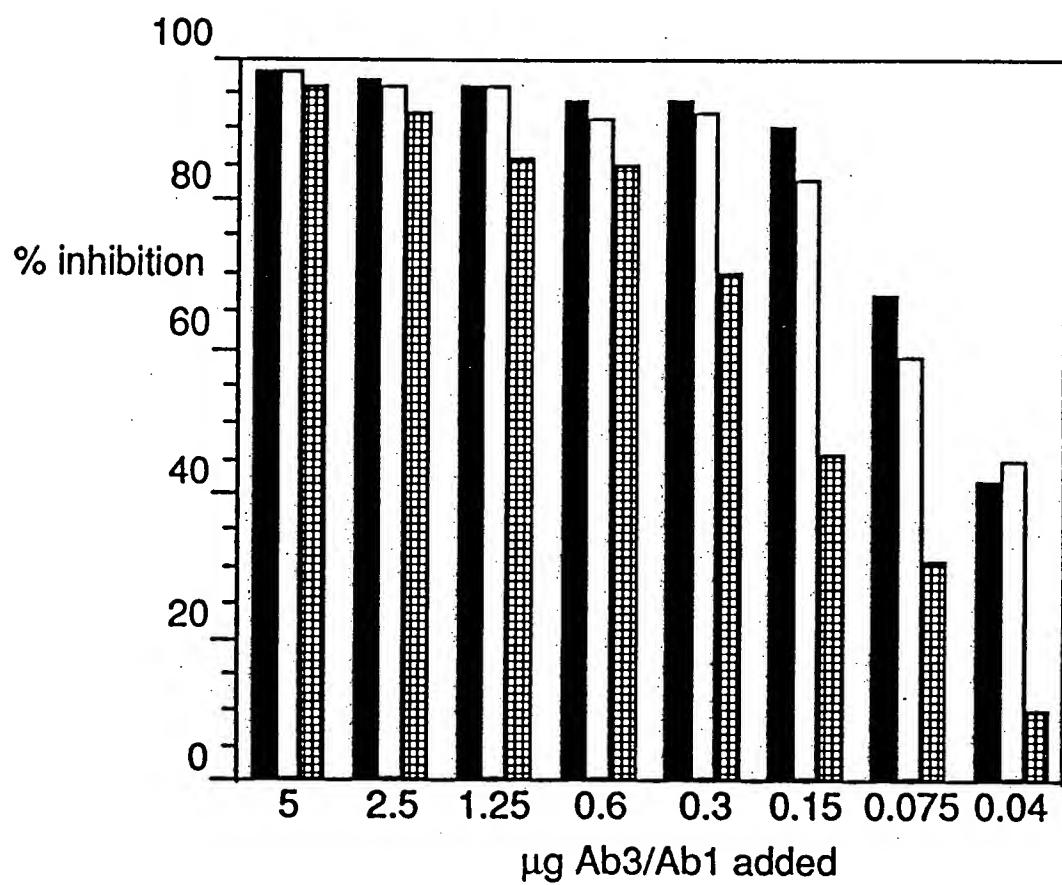


Figure 10

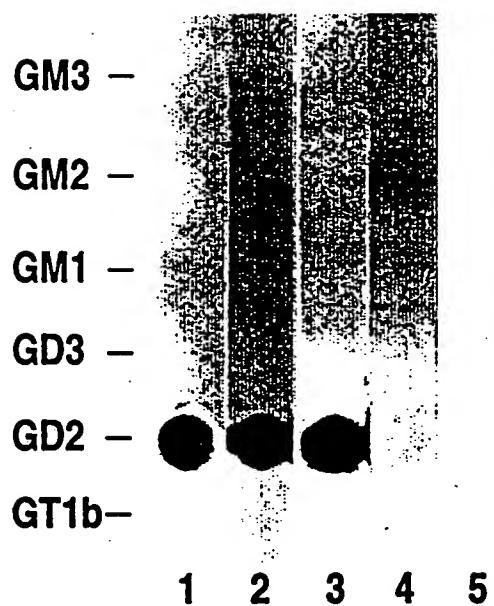


Figure 11

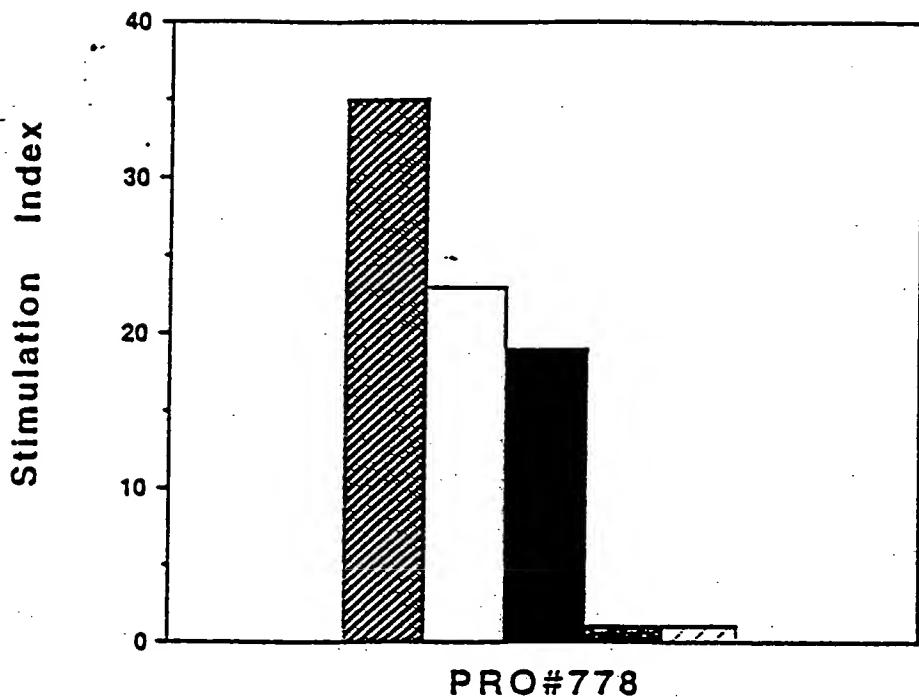


Figure 12

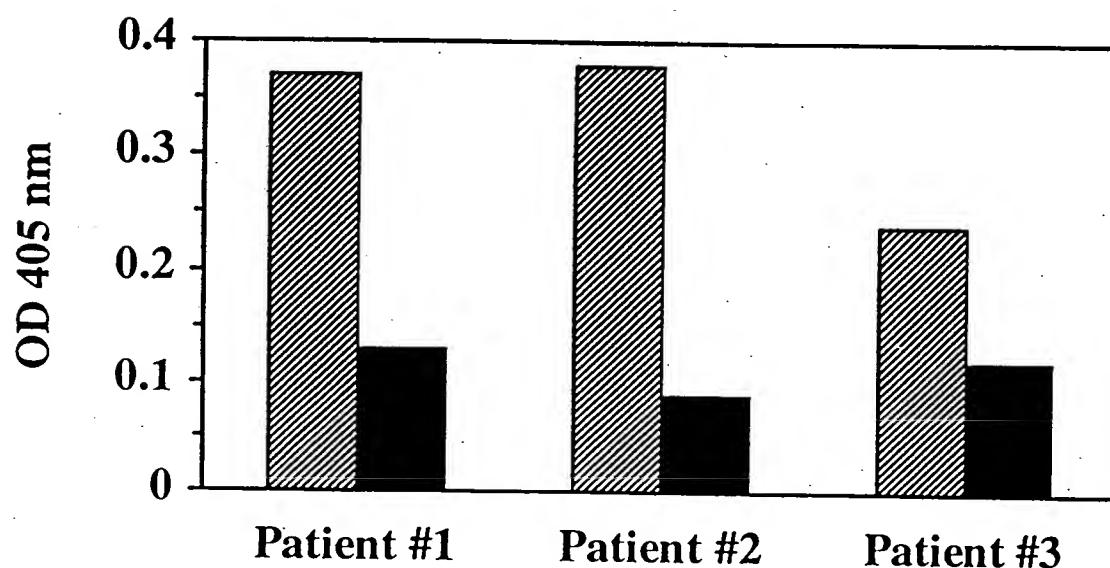
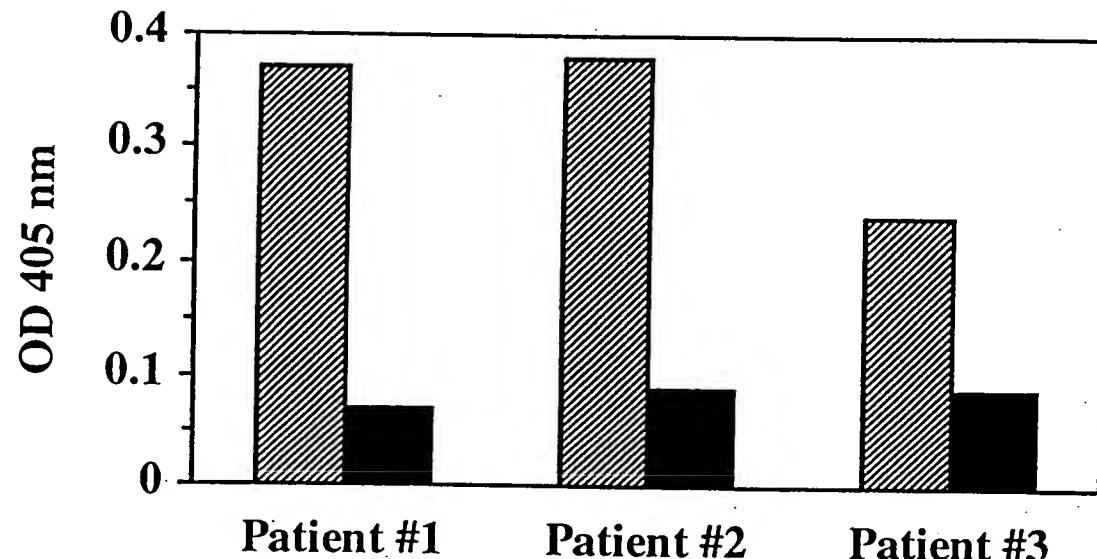


Figure 13

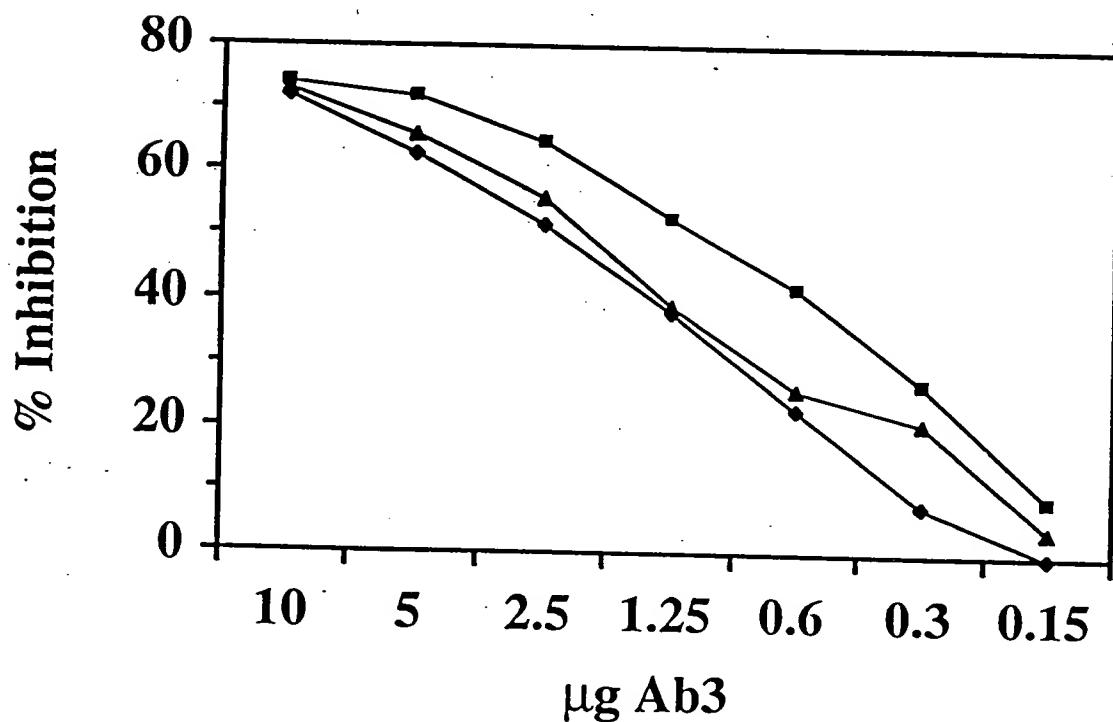
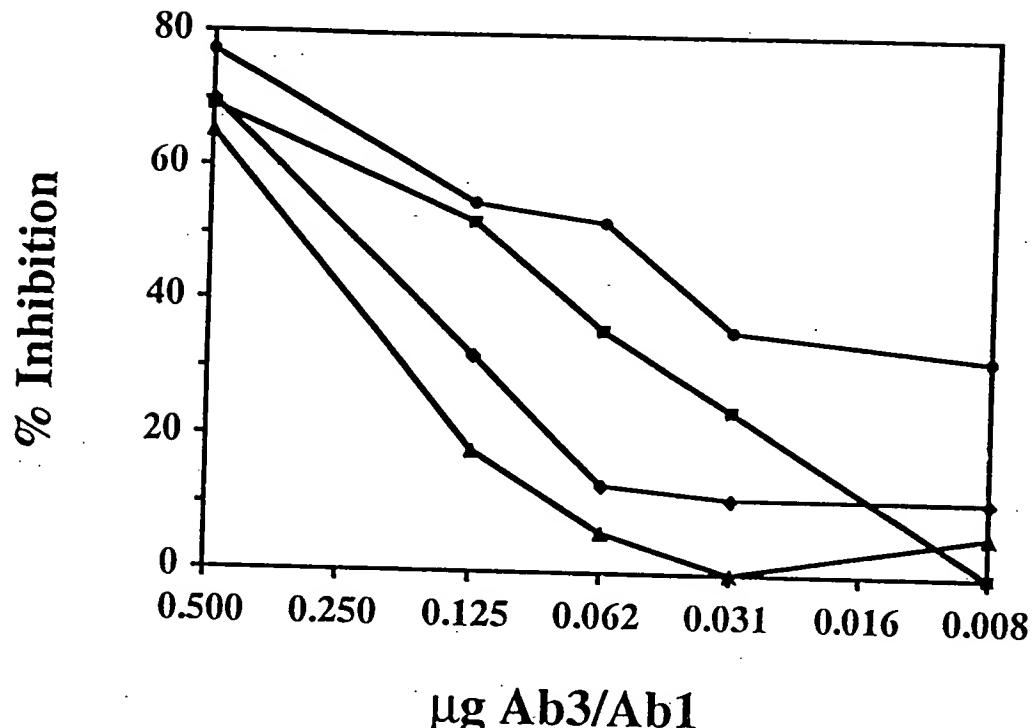


Figure 14

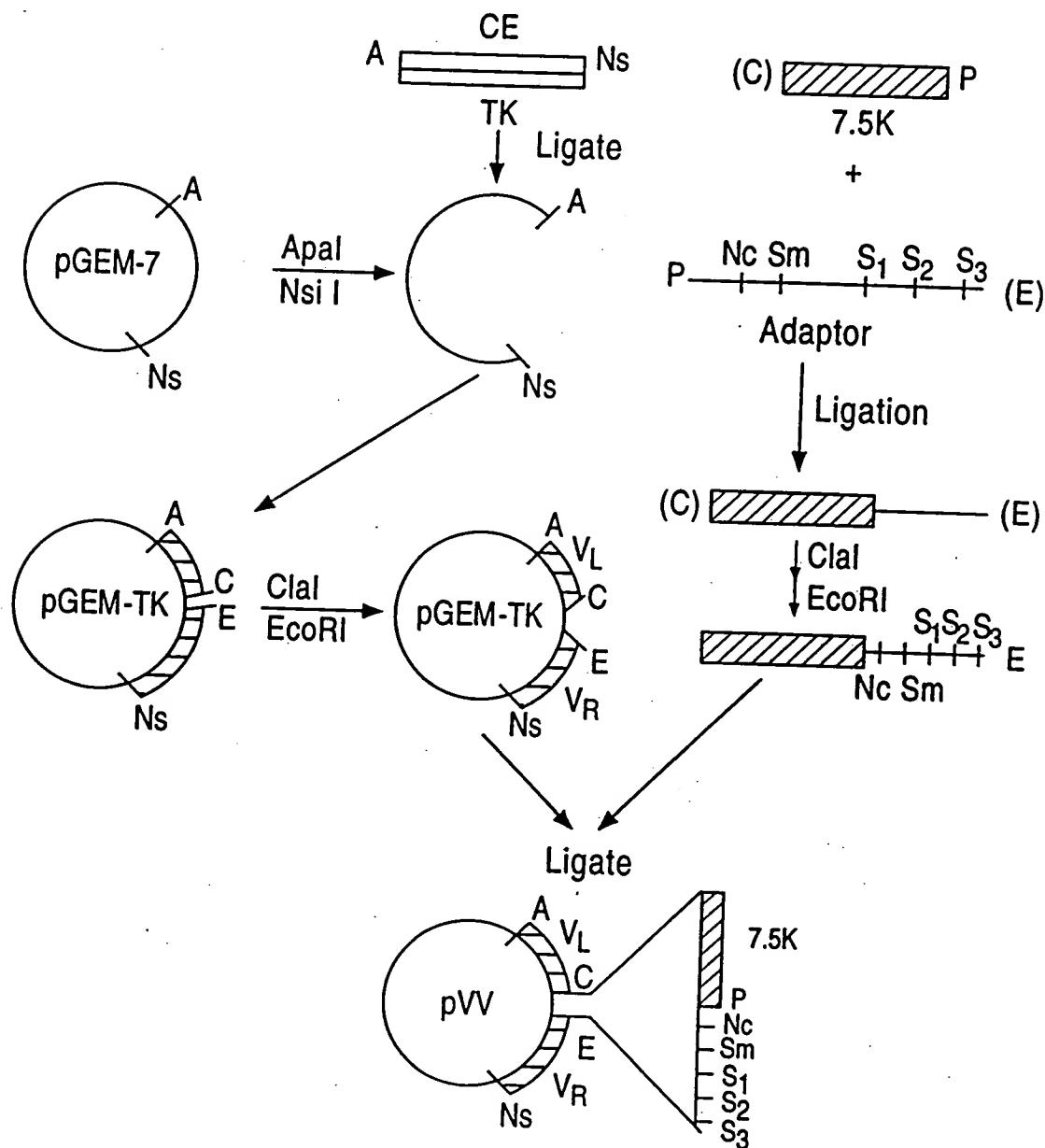


Figure 15

GCCGATATCACC!ATGGCTGTCTGGGCTGCTCTGCCTGGTACATTCCAAGC
TGTGTCCTGTCCCAGGTGCAGGTGAAGGAGTCAGGACCTTCCTGGTCCCCCTCA
CAGAGCCTGTCCATCACATGCACTGTCTCAGGGTTCTCATTAAACCACCTATGGTGT
AGCTGGATTGCCAGCCTCCAGGAAAGGGTCTGGAGTGGCTGGAGCAATTGGGG
TGACGGGACCACAAATTATCATTCACTCATATCCAGACTGAGCAGCAAGGA
TAACCTCCAAGAGCCAAGTTTCTAAAAACTGAACAGTCTGCAAACACTGATGACACGGC
CACGTACTACTGTGCCAAACTGGTAACACTACGATGCTCTGGACTACTGGGGTCAAGG
AACCTCAGTCACCGTCTCCTCAGGGGGAGGTGGCTCGGGCGGTGGCGCTGGGTGG
CGGCGGATCCGATGTTTGATGACCCAAACTCCACTCTCCCTGCCTGTCAGTCTTGG
GATCAAGCCTCCATCTCTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAAC
ACCTATTAGAATGGTACCTACAGAAACCAGGCCAGTCTCCAAACCTCCTGATCTAC
TTTGTTCACCGATTCTGGGGTCCCAGACAGGTTCACTGGCAGTGGATCAGGG
ACAGATTTCACACTCAAGATCAGCAGAGTGGAGGCTGAGGATCTGGAGTTATTAC
TGCTTCAAGGTTCACATGTTCCGTGGACGTTGGAGGACCAAGCTGGAAATC
AAATAATCTAGAGATG

1	mavlgllfcl	vtfpscvsq	vqvkesgpfl	vppsqslsit	ctvsgfsllt
51	ygvswirqpp	gkglewlgai	wgdgttnyhs	alisrlsisk	dnsksqvflk
101	lnslqtdtdta	tyycaklgny	daldywqgqt	svtvssgggg	sggggsgggg
151	sdvlmtqtpl	slpvslgdqa	siscrssqsi	vhsngntyle	wylqkpgqsp
201	nlliyfvsnr	fsgvpdrfsg	sgsgtdftlk	isrveaedlg	vyycfqgshv
251	pwtfgggtkl	eik			

Figure 16

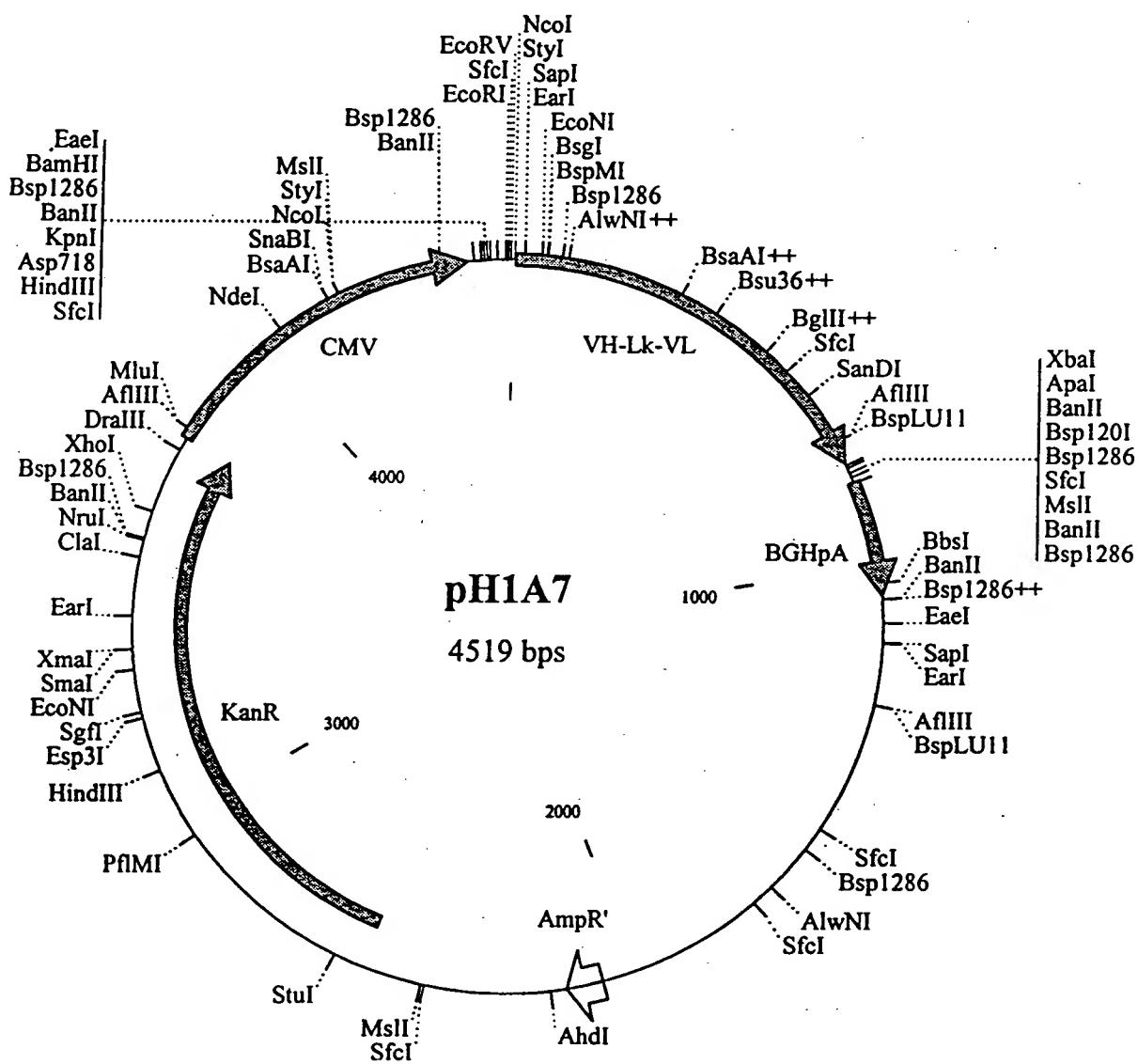


Figure 17(A)

>gb|L22327|MUSIGKAVAA Mouse rearranged immunoglobulin kappa-chain mRNA V-J

```
1 GATGTTTGATGACCCAAACTCCACTCTCCCTGCCTGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAGCTCCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGGTCCCAGACAGGTTCAGTGGCAGTGGATCAGGGACAGATTTCACACTCAAGATC 240
241 AGCAGAGTGGAGGCTGAGGATCTGGGAGTTATTACTGCTTCAAGGTTCACATGTTCCG 300
301 TGGACGTTGGTGGAGGCACCAAGCTGGAAATCAA 336
```

>gb|L18941|MUSIG4388 Mouse rearranged immunoglobulin light chain Ab438 mRNA V-J

```
1 GATGTTTGATGACCCAAACTCCACTCTCCCTGCCTGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAGCTCCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGGTCCCAGACAGGTTCAGTGGCAGTGGATCAGGGACAGATTTCACACTCAAGATC 240
241 AGCAGAGTGGAGGCTGAGGATCTGGGAGTTATTACTGCTTCAAGGTTCACATGTTCCG 300
301 TGGACGTTGGTGGAGGCACCAAGCTGGAAATCAA 336
```

>gb|M34588|MUSIGKABR Mouse Ig kappa-chain mRNA V-J region, partial cds.

```
1 GATGTTTGATGACCCAAACTCCACTCTCCCTGCCTGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAGCTCCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGGTCCCAGACAGGTTCAGTGGCAGTGGATCAGGGACAGATTTCACACTCAAGATC 240
241 AGCAGAGTGGAGGCTGAGGATCTGGGAGTTATTACTGCTTCAAGGTTCACATGTTCCG 300
301 TGGACGTTGGTGGAGGCACCAAGCTGGAAATCAA 336
```

>gb|M32857|MUSIGKCSP Mouse Ig rearranged kappa-chain mRNA V-region, partial

```
1 GATGTTTGATGACCCAAACTCCACTCTCCCTGCCTGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAGCTCCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGGTCCCAGACAGGTTCAGTGGCAGTGGATCAGGGACAGATTTCACACTCAAGATC 240
241 AGCAGAGTGGAGGCTGAGGATCTGGGAGTTATTACTGCTTCAAGGTTCACATGTTCCG 300
301 TGGACGTTGGTGGAGGCACCAAGCTGGAAATCAA 333
```

>gb|M83723|MUSIGKD2A Mouse monoclonal antiidiotypic antibody Ig kappa light

```
1 GATGTTTGATGACCCAAACTCCACTCTCCCTGCCTGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAGCTCCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGGTCCCAGACAGGTTCAGTGGCAGTGGATCAGGGACAGATTTCACACTCAAGATC 240
241 AGCAGAGTGGAGGCTGAGGATCTGGGAGTTATTACTGCTTCAAGGTTCACATGTTCC 300
301 CGGACGTTGGTGGAGGCACCAAGCTGGAAATCAA 336
```

>emb|Z22035|MDIGKVAH M.domesticus IgK variable region.

```
1 GATGTTGTGATGACCCAAACTCCACTCTCCCTGCCTGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 120
121 TACCTGCAGAAGGCCAGGCCAGTCTCCAAAGCTCCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGGTCCCAGACAGGTTCAGTGGCAGTGGATCAGGGACAGATTTCACACTCAAGATC 240
241 AGCAGAGTGGAGGCTGAGGATCTGGGAGTTATTACTGCTTCAAGGTTCACATGTTCCG 300
301 TGGACGTTGGTGGAGGCACCAAGCTGGAAATCAA 336
```

Figure 17(B)

>gb|M34589|MUSIGKABS Mouse Ig kappa-chain mRNA V-J region, partial cds.

1 GATGTTTGATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTTGGAGATCAAGCCTCC 60
61 ATCTCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCAAAGCTCCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGGTCCCAGANAGGTTCACTGGCAGTGGATCAGGGACAGATTCACACTCAAGATC 240
241 ACCAGAGTGGAGGCTGAGGATCTGGAGTTATTACTGCTTCAAGGTTCACATGTTCCG 300
301 TGGACGTTGGAGGCACCAAGCTGGAAATCAA 336

>gb|M32858|MUSIGKCSQ Mouse Ig rearranged kappa-chain mRNA V-region, partial

1 GATGTTTGATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTTGGAGATCAAGCCTCC 60
61 ATCTCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCAAAGCTCCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGGTCCCAGACAGGTTCACTGGCAGTGGATCAGGGACAGATTCACACTCAAGATC 240
241 ACCAGAGTGGAGGCTGAGGATCTGGAGTTATTACTGCTTCAAGGTTCACATGTTCCG 300
301 TGGACGTTGGAGGCACCAAGCTGGAAATC 333

>emb|X87231|MMKAPL1 M.musculus mRNA for antibody light chain

89 GATGTTTAATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTTGGAGATCAAGCCTCC 148
149 ATCTCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 208
209 TACCTGCAGAAACCAGGCCAGTCTCAAAGCTCCTGATCTACAAAGTTCCAACCGATT 268
269 TCTGGGGTCCCAGACAGGTTCACTGGCAGTGGATCAGGGACAGATTCACACTCAAGATC 328
329 AGCAGAGTGGAGGCTGAGGATCTGGAGTTATTACTGCTTCAAGGTTCACATGTTCCG 388
389 TGGACGTTGGAGGCACCAAGCTGGAAATCAA 424

>gb|U29428|MMU29428 Mus musculus anti-PC rearranged Ig kappa chain V-J region

13 GATGTTTGATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTTGGAGATCAAGCCTCC 72
73 ATCTCTTGCAGATCTAGTCAGAGCATTGTACATAGTAGTGGAAACACCTTTAGAATGG 132
133 TACCTGCAGAAACCAGGCCAGTCTCAAAGCTCCTGATCTACAAAGTTCCAACCGATT 192
193 TCTGGGGTCCCAGACAGGTTCACTGGCAGTGGATCAGGGACAGATTCACACTCAAGATC 252
253 AGCAGGGTGGAGGCTGAGGATCTGGAGTTATTACTGCTTCAAGGTTCACATGTTCCG 312
313 TGGACGTTGGAGGCACCAAGCTGGAAATCAA 348

Figure 18(A)

>gb|U01185|MMU01185 *Mus musculus* BALB/c anti-glycophorin A type N

```
1 CAGGTGCAGCTGCAAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATC 60
61 ACATGCACTGTCTCAGGGTTCTCATTAACCAGCTATGGTATAACCTGGGTTGCCAGCCT 120
121 CCAGGAAAGGGTCTGGAGTGGCTGGGAGTAATATGGGGTACGGAAACACAAATTATCAT 180
181 TCAGCTCTCATATCCAGACTGAGCATCAGCAAGGATAACTCCAAGAGCCAAGTTTCTTA 240
241 AAACTGAACAGTCTGCAAACGTGATGACACAGCCACGTACTACTGTGCCAAA 291
292 ----- 315
316 GCTAAGGACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCCTCA 360
```

>gb|M26985|MUSIGH1PR *Mus musculus* productively rearranged IgH chain allele 1,

```
1 CAGGTGCAGCTGAAGGGAGACAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATC 60
61 ACATGCACCGTCTCAGGGTTCTCATTAACCAGCTATGGTGTACACTGGGTTGCCAGCCT 120
121 CCAGGAAAGGGTCTGGAGTGGCTGGTAGTGTATGGAGTGTGGAAAGCACAAACTATAAT 180
181 TCAGCTCTCAAATCCAGACTGAGCATCAGCAAGGACAACCTCCAAGAGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTCCAAACTGATGACACAGCCATGTACTACTGTGCCAGAC 292
293 ----- 300
301 GGTGACTACTATGCTATGGACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCCTCA 357
```

>obj|D17387|PVY1B Potato virus Y immunoglobulin gene for monoclonal antibody

```
58 CAGGTGCAGCTGAAGGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATC 117
118 ACATGCACTGTCTCAGGGTTCTCATTAACCAGCTATGGTGTAAAGCTGGGTTGCCAGCCT 177
178 CCAGGAAAGGGTCTGGAGTGGCTGGGAGTAATATGGGGTACGGGAGGCACAAATTATCAT 237
238 TCAGCTCTCATATCCAGACTGAGCATCAGCAAGGATAACTCCAAGAGCCAAGTTTCTTA 297
298 AAACTGAACAGTCTGCAAACGTGATGACACAGCCACGTACTACTGTGCCAAGCATCTTGAC 357
358 TAC 360
361 TGGGGCCAAGGCACCACTCTCACAGTCTCCTCA 393
```

>gb|M36228|MUSIGHAEI Mouse Ig heavy-chain mRNA V region, partial cds from

```
1 CAGGTGCAGCTGAAGGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATC 60
61 ACTTGCACTGTCTGGGTTCTCATTAACCAGCTATGGTGTACACTGGGTTGCCAGCCT 120
121 CCAGGAAAGGGTCTGGAGTGGCTGGGAGTAATATGGGCTGGTGGAAAGCACAAATTATAAT 180
181 TCGGCTCTCATGTCCAGACTGAGCATCAGCAAAGACAACCTCCAAGAGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTGATGACACAGCCATGTACTACTGTGCCAGAGGGCATTAC 300
301 TACG 304
305 - 305
306 CTACTATGCTATGGACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCC 354
```

>gb|L48671|MUSAB *Mus musculus* (cell line C3H/F2-22) chromosome 12 anti-DNA

```
1 CAGGTGCAGCTCAAGGAGTCAGGACCTGTCCCTCGTGGCGCCCTCACAGAGCCTGTCCATC 60
61 ACTTGCACTGTCTGGGTTCTCATTAACCAGCTATGGTGTACACTGGGTTGCCAGCCT 120
121 CCAGGCAAGGGTCTGGAGTGGCTGGGAGTAATATGGGCTGGTGGAAAGCACAAATTATAAT 180
181 TCAGCTCTCATGTCCAGACTGAGCATCAGCAAAGACAACCTCCAAGAGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTGATGACACAGCCATGTACTACTGTGCCAAAC 292
293 ----- 304
305 ACAATGCTATGGACTACTGGGGTCAAGGAACCTCAGTCACNGTCTCCTCA 354
```

Figure 18(B)

>emb|X75099|MMASWS1H *M.musculus* (A.SW) mRNA for ASWS1 antibody heavy chain

1 CAGGTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCACCCCTCACAGAGCCTGTCCATC 60
61 ACATGCACGTCTCTGGGTTCTCATTATCCAGATATAGTGTACACTGGGTTGCCAGCCT 120
121 CCAGGAAAGGGTCTTGAGTGGCTGGGAATGATATGGGTGGAAACACAGACTATAAT 180
181 TCAGCTCTCAAATCCAGACTGAGCATCAGCAAGGACAACCTCCAAGAGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTGATGACACAGCCATGTACTACTGTGCCAGAGATGGTAC 300
301 TACGACTATGCTATGGACTACTGGGTCAAGGAACCTCAGTCACCGTCTCC 351

>gb|M36217|MUSIGHADX Mouse Ig heavy-chain mRNA V region, partial cds.

1 CAGGTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCACCCCTCACAGAGCCTGTCCATC 60
61 ACTTGCACGTCTCTGGGTTTCATTAAACCAGCTATGGTGTACACTGGGTTGCCAGCCT 120
121 CCAGGAAAGGGTCTGGAGTGGCTGGAGTAATATGGGCTGGTGGAAACACAATTATAAT 180
181 TCGGCTCTCATGTCCAGACTGAGCATCAGCAAAGACAACCTCCAAGAGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTGATGACACAGCCATGTACTACTGTGCCAGA 291
292 ----- 312
313 TACTATGCTATGGACTACTGGGTCAAGGAACCTCAGTCACCGTCTCC 360

>gb|J04609|MUSIGHAF *Mus musculus* IgM chain (anti-fluorescein antibody 18-2-3)

67 CACGTGCACCTGAAGGAGTCAGGACCTGTCTGGTGGCACCCCTCACAGAGCCTGTCCATC 126
127 ACTTGCACGTCTCTGGGTTTCATTAAACCAACTATGGTGTACACTGGGTTGCCAGCCT 186
187 CCAGGAAAGGGTCTGGAGTGGCTGGAGTAATATGGGCTGGTGGAAACACAATTATAAT 246
247 TCAGCTCTCATGTCCAGACTGAGCATCAGCAAAGACAATTCCAAGAGCCAAGTTTCTTA 306
307 AAAATGAACAGTCTGCAAATTGATGACACAGCCATATACTACTGTGCCAAAC 358
359 ----- 375
376 TACTATGCTATGGACTATTGGGTCAAGGAACCTCAGTCACCGTCTCCTCA 426

>gb|M34626|MUSIGHACK Mouse Ig rearranged heavy chain (HC19-F8) mRNA VH-DH-JH4

1 CAGGTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCACCCCTCACAGAGCCTGTCCATC 60
61 ACTTGCACGTCTCTGGGTTTCATTAAACCAGCTATGGTGTAGACTGGGTTGCCAGCCT 120
121 CCAGGAAAGGGTCTGGAGTGGCTGGAGTAATATGGGCTGGTGGAAACACAATTATAAT 180
181 TCAGCTCTCATGTCCAGACTGAGCATCAGCAAAGACAACCTCCAAGAGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTGATGACACAGCCATGTACTACTGTGCC 288
289 ----- 299
300 ACGGGGNNTTACTATGCTATGGACTACTGGGTCAAGGAACCTCAGTCACCGTCTC 356

>gb|L31403|MUSIGHCVX Mouse immunoglobulin heavy chain variable region (Igh-V)

58 CAGGTGCACCTGAAGGAGTCAGGACCTGGCCTGGTGGCACCCCTCACAGAGCCTGTCCATC 117
118 ACTTGCACGTCTCTGGATTTCATTAAACCAACCTATGGTGTACACTGGGTTGCCAGCCT 177
178 CCAGGAAAGGGTCTGGAGTGGCTGGAGTAATATGGGCTGGTGGAAACACAATTATAAT 237
238 TCGGCTCTCATGTCCAGACTGAGCATCAACAAAGACAACCTCCAAGAGCCAAGTTTCTTA 297
298 AAAATGAACAGTCTGCAAGCTGATGACACAGCCATGTACTACTGTGCCAGATT 350
351 ----- 367
368 ACGACTATGCTGTGGACTACTGGGTCAAGGAACCTCAGTCACCGTCTCCTCA 420